

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
|-------|-------|--|---|------------------|---------|------------------|
| L1 | 14067 | ((257/79) or (257/8\$1) or (257/9\$1) or (257/100) or (257/101) or (257/102) or (257/103) or (372/43.01) or (372/108) or (385/125)).CCLS. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2006/01/15 20:23 |
| L2 | 0 | 1 and photonic adj crystal.ti,ab, clm. and (guid\$3 wave-guid\$3 wave adj guid\$3) adj layer.ti,ab, clm. and (light-emitting light adj emitting).ti,ab,clm. and extract\$3. ti,ab,clm. and (hole aperture opening void).ti,ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 20:27 |
| L3 | 0 | 1 and photonic adj crystal.ti,ab, clm. and (trap\$4 guid\$3 wave-guid\$3 wave adj guid\$3) adj layer.ti,ab,clm. and (light-emitting light adj emitting).ti,ab,clm. and extract\$3.ti,ab,clm. and (hole aperture opening void).ti,ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 20:27 |
| L4 | 2 | 1 and photonic adj crystal.ti,ab, clm. and (trap\$4 guid\$3 wave-guid\$3 wave adj guid\$3) near4 layer.ti,ab,clm. and (light-emitting light adj emitting). ti,ab,clm. and extract\$3.ti,ab,clm. and (hole aperture opening void). ti,ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 20:28 |
| S2 | 148 | (light-emitting light adj emitting laser semiconductor near2 optoelectronic).ti,ab,clm. and (transparent near4 electrode indium adj tin adj oxide ITO ZnO "ZnO.sub."S1 zinc adj oxide) and (photonic adj crystal extraction near10 grid radiative adj coupling near10 grid radiatively adj couple\$1 near6 grid) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 18:32 |
| S3 | 66 | (light-emitting light adj emitting laser semiconductor near2 optoelectronic).ti,ab,clm. and (transparent near4 electrode indium adj tin adj oxide ITO ZnO "ZnO.sub."S1 zinc adj oxide) and (photonic adj crystal extraction near10 grid radiative adj coupling near10 grid radiatively adj couple\$1 near6 grid) | USPAT | OR | ON | 2005/07/21 16:08 |

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| S4 | 68 | (light-emitting light adj emitting laser semiconductor near2 optoelectronic).ti,ab,clm. and (transparent near4 electrode indium adj tin adj oxide ITO ZnO "ZnO.sub."S1 zinc adj oxide) and (photonic adj crystal (extraction near10 (grating grid)) (radiative adj coupling near10 (grating grid)) (radiatively adj couple\$1 near6 (grating grid))) | USPAT | OR | ON | 2005/07/21 16:10 |
| S5 | 0 | (light-emitting light adj emitting laser semiconductor near2 optoelectronic).ti,ab,clm. and (transparent near4 electrode indium adj tin adj oxide ITO ZnO "ZnO.sub."S1 zinc adj oxide) and (photonic adj crystal (extraction near10 (grating grid)) (radiative adj coupling near10 (grating grid)) (radiatively adj couple\$1 near6 (grating grid))) and ((guide guiding wave-guide) adj layer) | USPAT | OR | ON | 2005/07/21 16:11 |
| S6 | 0 | (light-emitting light adj emitting laser semiconductor near2 optoelectronic).ti,ab,clm. and (transparent near4 electrode indium adj tin adj oxide ITO ZnO "ZnO.sub."S1 zinc adj oxide) and (photonic adj crystal (extraction near10 (grating grid)) (radiative adj coupling near10 (grating grid)) (radiatively adj couple\$1 near6 (grating grid))) and guide adj layer | USPAT | OR | ON | 2005/07/21 16:11 |
| S7 | 0 | (light-emitting light adj emitting laser semiconductor near2 optoelectronic).ti,ab,clm. and (transparent near4 electrode indium adj tin adj oxide ITO ZnO "ZnO.sub."S1 zinc adj oxide) and (photonic adj crystal (extraction near10 (grating grid)) (radiative adj coupling near10 (grating grid)) (radiatively adj couple\$1 near6 (grating grid))) and waveguide adj layer | USPAT | OR | ON | 2005/07/21 16:12 |

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| S8 | 68 | (light-emitting light adj emitting laser semiconductor near2 optoelectronic).ti,ab,clm. and (transparent near4 electrode indium adj tin adj oxide ITO ZnO "ZnO.sub."S1 zinc adj oxide) and (photonic adj crystal (extraction near10 (grating grid)) (radiative adj coupling near10 (grating grid)) (radiatively adj couple\$1 near6 (grating grid))) | USPAT | OR | ON | 2005/07/21 16:17 |
| S9 | 0 | (light-emitting light adj emitting laser semiconductor near2 optoelectronic).ti,ab,clm. and (transparent near4 electrode indium adj tin adj oxide ITO ZnO "ZnO.sub."S1 zinc adj oxide) and (photonic adj crystal (extraction near10 (grating grid)) (radiative adj coupling near10 (grating grid)) (radiatively adj couple\$1 near6 (grating grid))) and guiding adj layer | USPAT | OR | ON | 2005/07/21 16:19 |
| S10 | 3 | (light-emitting light adj emitting laser semiconductor near2 optoelectronic).ti,ab,clm. and (photonic adj crystal (extraction near10 (grating grid)) (radiative adj coupling near10 (grating grid)) (radiatively adj couple\$1 near6 (grating grid))) and guiding adj layer | USPAT | OR | ON | 2005/07/21 16:22 |
| S11 | 0 | (light-emitting light adj emitting laser semiconductor near2 optoelectronic).ti,ab,clm. and (photonic adj crystal) and waveguide adj layer and extraction near4 efficiency | USPAT | OR | ON | 2005/07/21 16:23 |
| S12 | 2 | (light-emitting light adj emitting laser semiconductor near2 optoelectronic).ti,ab,clm. and (photonic adj crystal) and waveguide adj layer and extraction near4 efficiency | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/21 16:25 |
| S13 | 2 | (light-emitting light adj emitting laser semiconductor near2 optoelectronic).ti,ab,clm. and (photonic adj crystal extraction near3 (grid grating)) and waveguide adj layer and extraction near4 efficiency | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/21 16:26 |

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| S14 | 2 | (light-emitting light adj emitting laser semiconductor near2 optoelectronic).ti,ab,clm. and (photonic adj crystal grid grating) and waveguide adj layer and extraction near4 efficiency | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/21 16:26 |
| S15 | 8 | (light-emitting light adj emitting laser semiconductor near2 optoelectronic).ti,ab,clm. and (photonic adj crystal grid grating) and waveguide adj layer and extraction near4 efficiency | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/21 17:02 |
| S16 | 5 | ((("5,008,718") or ("5,779,924") or ("5,955,749") or ("6,323,063") or ("6,580,096"))).PN. | USPAT | OR | OFF | 2005/07/21 17:04 |
| S17 | 0 | (U52003/0141507).CCLS. | USPAT | OR | OFF | 2005/07/21 17:04 |
| S18 | 0 | ("20030141507").PN. | USPAT | OR | OFF | 2005/07/21 17:04 |
| S19 | 1 | ("20030141507").PN. | US-PGPUB; USPAT | OR | OFF | 2005/07/21 17:04 |
| S20 | 723215 | (light-emitting light adj emitting laser optoelectronic).ti,ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 07:32 |
| S21 | 3133 | photonic adj crystal | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 07:32 |
| S22 | 267613 | (ito indium-tin-oxide indium adj tin adj oxide) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 07:45 |
| S23 | 16879 | waveguide adj (film layer) guide adj (layer film) guiding adj (layer film) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 08:02 |
| S24 | 7804 | extraction near3 efficiency | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 07:34 |
| S25 | 9332 | (extracting extraction extract) near3 efficiency | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 07:35 |

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|-----|--------|--|---|----|-----|------------------|
| S26 | 991707 | S20 S21 S22 S23 S25 | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 07:35 |
| S27 | 1 | S20 and S21 and S22 and S23 and S25 | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 08:04 |
| S28 | 389658 | (ito indium-tin-oxide indium adj tin adj oxide zinc adj oxide zno "zno. sub."\$1) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 07:46 |
| S29 | 1 | S20 and S21 and S28 and S23 and S25 | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 07:52 |
| S30 | 5 | ((("5977566") or ("6420732")).PN. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/22 07:52 |
| S31 | 10010 | (grin-sch sch separate adj confinement adj heterostructure graded adj refractive adj index adj separate adj confinement) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 08:03 |
| S32 | 0 | S20 and S21 and S22 and S31 and S25 | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 08:04 |
| S33 | 0 | S20 and S21 and S28 and S31 and S25 | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 08:09 |
| S34 | 12 | photonic adj crystal and (ito indium adj tin adj oxide indium-tin-oxide) and extraction near4 (efficiency efficiently efficient) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 09:54 |
| S35 | 0 | "6420732".ap. and transparent adj oxide | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 09:54 |

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| S36 | 0 | "6420732".ap. and transparent near6 oxide | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 09:55 |
| S37 | 0 | "6420732".ap. and transparent and oxide | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 09:55 |
| S38 | 0 | "6420732".ap. and transparent | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 09:55 |
| S39 | 0 | "6420732".ap. and diodes | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 09:56 |
| S40 | 2 | ("6420732").PN. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/22 09:56 |
| S41 | 1 | S40 and transparent and oxide and ito | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/22 11:12 |
| S42 | 1523 | ITO near4 (thick thickness) and (light-emitting light adj emitting laser optoelectronic).ti,ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 11:13 |
| S43 | 863 | ITO near4 (thick thickness) near4 nm and (light-emitting light adj emitting laser optoelectronic).ti,ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 11:13 |
| S44 | 0 | transparent near10 current adj spreading near10 ITO near4 (thick thickness) near4 nm and (light-emitting light adj emitting laser optoelectronic).ti,ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 11:13 |
| S45 | 290 | transparent near10 ITO near4 (thick thickness) near4 nm and (light-emitting light adj emitting laser optoelectronic).ti,ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 11:13 |

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| S46 | 1 | transparent near10 ITO near4 (thick thickness) near4 nm and (light-emitting light adj emitting laser optoelectronic).ti,ab,clm. and photonic adj crystal | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 11:14 |
| S47 | 1 | transparent near10 ITO near4 (thick thickness) near4 nm and (light-emitting light adj emitting laser optoelectronic).ti,ab,clm. and (optical photonic) adj crystal | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 11:14 |
| S48 | 8 | ITO near4 (thick thickness) near4 nm and (light-emitting light adj emitting laser optoelectronic).ti, ab,clm. and (optical photonic) adj crystal | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 11:51 |
| S49 | 6 | ITO near4 (thick thickness) near4 nm near10 wavelength and (light-emitting light adj emitting laser optoelectronic).ti,ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 12:02 |
| S50 | 7 | (transparent near2 electrode ITO ZnO."ZnO.sub."\$1 zinc adj oxide) near4 (thick thickness) near4 nm near10 wavelength and (light-emitting light adj emitting laser optoelectronic).ti,ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 12:48 |
| S51 | 6 | (electrode) near4 (thick thickness) near4 nm near10 wavelength and (light-emitting light adj emitting laser optoelectronic).ti,ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 12:52 |
| S52 | 6 | (electrode) near4 (thick thickness) near4 ("ANG." nm) near10 wavelength and (light-emitting light adj emitting laser optoelectronic).ti,ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 12:52 |
| S53 | 6 | (electrode) near4 (thick thickness) near4 ("ANG." nm Angstrom Angstrom) near10 wavelength and (light-emitting light adj emitting laser optoelectronic).ti,ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 12:53 |
| S54 | 7 | (electrode) near4 (thick thickness) near4 ("ANG." nm Angstrom Angstrom ".mum.m" micron) near10 wavelength and (light-emitting light adj emitting laser optoelectronic).ti,ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 12:54 |
| S55 | 0 | (electrode) near4 (thick thickness) near4 ("lambda."\$4 near10 wavelength) and (light-emitting light adj emitting laser optoelectronic).ti,ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 12:56 |

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| S56 | 0 | (electrode) near4 (thick thickness) near4 (".lambda."\$5 near10 wavelength) and (light-emitting light adj emitting laser optoelectronic).ti,ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 12:56 |
| S57 | 0 | (electrode) near4 (thick thickness) near4 (".lambda."\$5) and (light-emitting light adj emitting laser optoelectronic).ti,ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 12:57 |
| S58 | 0 | (electrode conductive adj layer) near4 (thick thickness) near4 (".lambda."\$5) and (light-emitting light adj emitting laser optoelectronic).ti,ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 12:57 |
| S59 | 0 | (electrode conductive adj (film layer)) near4 (thick thickness) near4 (".lambda."\$5) and (light-emitting light adj emitting laser optoelectronic).ti,ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 12:57 |
| S60 | 0 | (electrode conductive adj (film layer) transparent) near4 (thick thickness) near4 (".lambda."\$5) and (light-emitting light adj emitting laser optoelectronic).ti,ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 12:57 |
| S61 | 0 | (electrode conductive adj (film layer) transparent) near4 (".lambda."\$5) and (light-emitting light adj emitting laser optoelectronic).ti,ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 12:58 |
| S62 | 0 | (electrode conductive adj (film layer) transparent) near4 (".l."\$5) and (light-emitting light adj emitting laser optoelectronic).ti,ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/22 12:58 |
| S63 | 19 | (US-20030020399-\$ or US-20030057417-\$ or US-20030141507-\$ or US-20030209714-\$ or US-20040150979-\$ or US-20040188689-\$ or US-20050035354-\$ or US-20050035362-\$).did. or (US-5008718-\$ or US-5463705-\$ or US-5779924-\$ or US-5955749-\$ or US-5970081-\$ or US-6323063-\$ or US-6580096-\$ or US-6630684-\$ or US-6803603-\$ or US-6420732-\$).did. or (US-20030057417-\$).did. | US-PGPUB; USPAT; DERWENT | OR | OFF | 2005/07/22 13:48 |

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| S64 | 0 | ("19andhexagonal").PN. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/22 13:49 |
| S65 | 6 | S63 and hexagonal | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/22 15:13 |
| S66 | 230 | photonic adj crystal near10 (electrode grid grating) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/22 15:31 |
| S67 | 1091 | photonic adj crystal.ti. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/22 15:31 |
| S68 | 70 | photonic adj crystal.ti. | USPAT | OR | OFF | 2005/07/22 15:31 |
| S69 | 20 | (US-20030020399-\$ or US-20030057417-\$ or US-20030141507-\$ or US-20030209714-\$ or US-20040150979-\$ or US-20040188689-\$ or US-20050035354-\$ or US-20050035362-\$ or US-20030209716-\$).did. or (US-5008718-\$ or US-5463705-\$ or US-5779924-\$ or US-5955749-\$ or US-5970081-\$ or US-6323063-\$ or US-6580096-\$ or US-6630684-\$ or US-6803603-\$ or US-6420732-\$).did. or (US-20030057417-\$).did. | US-PGPUB; USPAT; DERWENT | OR | OFF | 2005/07/22 16:06 |
| S70 | 3 | S69 and array near4 (laser led light-emitting light adj emitting) | US-PGPUB; USPAT; DERWENT | OR | OFF | 2005/07/22 16:06 |
| S71 | 188 | (thick thickness) near20 electrode near20 (frequency wavelength near20 (refracti\$2 near2 index)) and (light-emitting light adj emitting laser optoelectronic).ti, ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/23 13:02 |
| S72 | 2 | jp-07240277\$-\$).did. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/23 13:31 |

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|-----|-------|--|---|----|----|------------------|
| S73 | 64689 | (metal gold current adj spreading alumin\$um silver) near10 (ITO transparent ZnO "ZnO.sub."\$2 indium-tin-oxide indium adj oxide adj oxide) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/23 13:32 |
| S74 | 9342 | (metal gold current adj spreading alumin\$um silver) near10 (ITO transparent ZnO "ZnO.sub."\$2 indium-tin-oxide indium adj oxide adj oxide) and (light-emitting light adj emitting laser optoelectronic). ti,ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/23 13:32 |
| S75 | 5693 | (metal gold current adj spreading alumin\$um silver) near4 (ITO transparent ZnO "ZnO.sub."\$2 indium-tin-oxide indium adj oxide adj oxide) and (light-emitting light adj emitting laser optoelectronic). ti,ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/23 13:33 |
| S76 | 78 | (current adj spreading) near4 (ITO transparent ZnO "ZnO.sub."\$2 indium-tin-oxide indium adj oxide adj oxide) and (light-emitting light adj emitting laser optoelectronic). ti,ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/23 13:56 |
| S77 | 2873 | lindner.in. | EPO; DERWENT | OR | ON | 2005/07/23 13:44 |
| S78 | 0 | lindner.in. and ito | EPO; DERWENT | OR | ON | 2005/07/23 13:44 |
| S79 | 67 | lindner.in. and electrode | EPO; DERWENT | OR | ON | 2005/07/23 13:46 |
| S80 | 4 | "239766".ap. | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/23 13:54 |
| S81 | 0 | wo-0171334\$-\$\$.did. | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/23 13:54 |
| S82 | 1 | wo-200171334\$-\$\$.did. | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/23 13:54 |

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| S83 | 0 | wo-2001071334\$-\$\$.did. | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/23 13:55 |
| S84 | 0 | wo-01071334\$-\$\$.did. | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/23 13:55 |
| S85 | 14 | (current adj spreading) near4 (ITO) and (light-emitting light adj emitting laser optoelectronic).ti, ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/23 14:10 |
| S86 | 36 | (NiAu "Ni/Au" "Au/Ni") near10 ITO and (light-emitting light adj emitting laser optoelectronic).ti, ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/23 14:57 |
| S87 | 3 | plurality near2 (light-emitting light adj emitting laser).ti,ab,clm. and (mesh-like grid) near6 electrode near4 transparent | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/23 15:46 |
| S88 | 11 | ep-138177\$-\$\$.did. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/23 15:47 |
| S89 | 9 | "6495862" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/23 15:47 |
| S90 | 2 | ("6495862").PN. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/23 15:48 |
| S91 | 0 | wo-01091194\$-\$\$.did. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/23 15:48 |
| S92 | 0 | wo-2001091194\$-\$\$.did. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/23 15:48 |

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| S93 | 1 | wo-200191194\$-\$.did. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/23 15:48 |
| S94 | 8270 | ((257/79) or (257/8\$1) or (257/9\$1) or (257/100) or (257/101) or (257/102) or (257/103) or (372/43) or (372/44) or (372/45) or (372/46) or (372/47) or (372/48) or (372/49) or (372/50) or (372/108) or (385/125)).CCLS. | US-PGPUB; USPAT | OR | OFF | 2005/07/23 17:11 |
| S95 | 1716 | S94 AND (EXTRACTION EFFICIENCY) AND (GRID GRATING PHOTONIC WAVEGUIDE GUIDE GUIDING) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/23 16:30 |
| S96 | 1276 | S94 AND (EXTRACTION EFFICIENCY) AND (GRID GRATING PHOTONIC WAVEGUIDE GUIDE GUIDING) AND (LIGHT-EMITTING LIGHT ADJ EMITTING LASER).TI,AB,CLM. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/23 16:31 |
| S97 | 23 | (US-20050151145-\$ or US-20050087754-\$ or US-20050035362-\$ or US-20050035354-\$ or US-20040188689-\$ or US-20030209716-\$ or US-20030209714-\$ or US-20030160259-\$ or US-20030141507-\$ or US-20030075714-\$ or US-20030071564-\$ or US-20030059185-\$).did. or (US-6831302-\$ or US-6803603-\$ or US-6788862-\$ or US-6630684-\$ or US-6586775-\$ or US-6420732-\$ or US-5955749-\$ or US-5619521-\$ or US-5008718-\$ or US-4879250-\$ or US-3806777-\$).did. | US-PGPUB; USPAT | OR | OFF | 2005/07/23 16:54 |
| S98 | 15 | flip-chip and (light-emitting light adj emitting).ti,ab,clm. and substrate and active and (photonic adj crystal grid near2 electrode grating near2 electrode) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/23 17:13 |

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| S99 | 24 | substrate near6 (separat\$3 guid\$3 adj (region layer film)) and (light-emitting light adj emitting). ti,ab,clm. and substrate and active and (photonic adj crystal grid near2 electrode grating near2 electrode) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/23 17:14 |
| S100 | 5 | "773943".ap. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/14 19:32 |
| S101 | 1 | (US-20050173717-\$).did. | US-PGPUB | OR | OFF | 2006/01/14 19:37 |
| S102 | 1 | (US-20050173717-\$).did. | US-PGPUB | OR | OFF | 2006/01/14 20:14 |
| S103 | 1 | S100 and photonic adj crystal | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/14 20:25 |
| S104 | 2 | ("6868107").PN. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2006/01/14 20:25 |
| S105 | 0 | ("jp-20050094956\$-\$).PN. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2006/01/14 20:28 |
| S106 | 2 | "20050094956".pn. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2006/01/14 20:29 |
| S107 | 2 | "20030113067".pn. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2006/01/14 20:30 |
| S108 | 4 | S106 S107 | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2006/01/14 20:30 |
| S109 | 32 | "5970081" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2006/01/14 20:47 |

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| S11 0 | 2 | "5970081".pn. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2006/01/14 21:44 |
| S11 1 | 93 | photonic adj crystal and light-emitting adj (diode element diode) and (waveguide wave adj guide) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 00:15 |
| S11 2 | 3 | ("6803603").PN. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2006/01/14 22:30 |
| S11 3 | 1 | S112 and (wave adj guide waveguide) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2006/01/14 22:30 |
| S11 4 | 47 | photonic adj crystal and light-emitting adj (diode element diode) and (waveguide wave adj guide) | USPAT | OR | ON | 2006/01/15 00:23 |
| S11 5 | 6 | extraction near6 (photonic adj crystal) and light adj emitting.ti, ab,clm. | USPAT | OR | ON | 2006/01/15 00:24 |
| S11 6 | 4 | extraction near6 (photonic adj crystal) and light adj emitting.ti, ab,clm. and (wave adj guide waveguide) | USPAT | OR | ON | 2006/01/15 00:31 |
| S11 7 | 0 | extraction near6 (photonic adj crystal).ti,ab,clm. and light adj emitting.ti,ab,clm. and (wave adj guide waveguide) | USPAT | OR | ON | 2006/01/15 00:26 |
| S11 8 | 3 | extraction near6 (photonic adj crystal) and light adj emitting.ti, ab,clm. and (wave adj guide waveguide) and (light adj emitting active) adj layer | USPAT | OR | ON | 2006/01/15 00:32 |
| S11 9 | 23 | photonic adj crystal and light-emitting adj (diode element device) and ito near3 electrode | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 09:54 |
| S12 0 | 0 | photonic adj crystal near10 (hole aperture opening) near10 electrode and light-emitting adj (diode element device) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 09:55 |

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| S12 1 | 2 | photonic adj crystal near10 (hole aperture opening) near10 electrode and (laser light-emitting adj (diode element device)) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 09:57 |
| S12 2 | 2 | ("5995749").PN. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2006/01/15 09:57 |
| S12 3 | 54 | (US-20010000943-\$ or US-20030020399-\$ or US-20030044639-\$ or US-20030057417-\$ or US-20030059185-\$ or US-20030071564-\$ or US-20030075714-\$ or US-20030113067-\$ or US-20030141507-\$ or US-20030160259-\$ or US-20030209714-\$ or US-20030209716-\$ or US-20040150979-\$ or US-20040166362-\$ or US-20040188689-\$ or US-20040208466-\$ or US-20040227151-\$ or US-20050035354-\$ or US-20050035362-\$ or US-20050087754-\$ or US-20050094956-\$ or US-20050116625-\$ or US-20050151145-\$ or US-20050173717-\$ or US-20050226294-\$ or US-20050271092-\$).did. or (US-20050285128-\$).did. or (US-3806777-\$ or US-4879250-\$ or US-5008718-\$ or US-5463705-\$ or US-5619521-\$ or US-5779924-\$ or US-5955749-\$ or US-5970081-\$ or US-6323063-\$ or US-6420732-\$ or US-6495862-\$ or US-6574383-\$ or US-6580096-\$ or US-6586775-\$ or US-6630684-\$ or US-6788862-\$ or US-6803603-\$ or US-6831302-\$ or US-6847056-\$ or US-6868107-\$ or US-6958494-\$ or US-6967437-\$).did. or (JP-07240277-\$).did. or (US-20030057417-\$ or US-20030113067-\$ or US-20030231689-\$ or US-20050094956-\$).did. | US-PGPUB; USPAT; JPO; DERWENT | OR | OFF | 2006/01/15 09:57 |

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| S12 4 | 0 | ("Sandjoannopoulos.in.").PN. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2006/01/15 09:58 |
| S12 5 | 2 | S123 and joannopoulos.in. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 09:59 |
| S12 6 | 0 | S125 and electrode | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 10:08 |
| S12 7 | 0 | erchak.in. and electrode near4 (hole aperture opening) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 10:08 |
| S12 8 | 0 | erchak.in. and electrode near4 (pattern patterned patterning hole aperture opening) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 10:10 |
| S12 9 | 176 | photonic adj crystal and electrode near4 (pattern patterned patterning hole aperture opening) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 10:10 |
| S13 0 | 60 | photonic adj crystal.ti,ab,clm. and electrode near4 (pattern patterned patterning hole aperture opening) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 10:10 |
| S13 1 | 39 | photonic adj crystal.ti,ab,clm. and electrode near4 (hole aperture opening) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 11:27 |
| S13 2 | 486 | photonic adj crystal near6 (hole opening aperture) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 11:28 |
| S13 3 | 0 | (photonic adj crystal near6 (hole opening aperture)) near20 (electrode near6 (pattern patterned patterning)) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 11:29 |

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| S13 4 | 3 | (photonic adj crystal near6 (hole opening aperture)) near20 electrode | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 11:32 |
| S13 5 | 2 | ("6674778").PN. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2006/01/15 11:33 |
| S13 6 | 1 | S135 and electrode | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 11:53 |
| S13 7 | 69 | dbr and light-emitting adj diode and (single adj mode "few" adj mode) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 11:54 |
| S13 8 | 8 | dbr near6 (single adj mode "few" adj mode) and light-emitting adj diode | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 11:56 |
| S13 9 | 8 | dbr near6 (single adj mode "few" adj mode) and light-emitting adj diode and (hole aperture opening) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 11:56 |
| S14 0 | 0 | dbr near6 (single adj mode "few" adj mode) and light-emitting adj diode and (hole aperture opening) and photonic adj crystal | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 11:56 |
| S14 1 | 8 | dbr near6 (single adj mode "few" adj mode) and light-emitting adj diode and (hole aperture opening) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 12:08 |
| S14 2 | 8 | dbr near6 (single adj mode "few" adj mode) and light-emitting adj diode and vCSEL | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 12:29 |
| S14 3 | 26 | dbr near6 (single adj mode "few" adj mode) and vCSEL | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 12:54 |

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| S14 4 | 0 | "200400131157".pn. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 12:54 |
| S14 5 | 2 | "20040013157".pn. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 12:54 |
| S14 6 | 35 | dbr and (guide guiding waveguide wave adj guide) and (light-emitting light adj emitting) and photonic adj crystal | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 17:54 |
| S14 7 | 5 | dbr and (guide guiding waveguide wave adj guide) and (light-emitting light adj emitting) and photonic adj crystal and electrode near6 (hole aperture opening) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 18:02 |
| S14 8 | 4 | (guide guiding waveguide wave adj guide) near3 (active adj layer) and (light-emitting light adj emitting) and photonic adj crystal and electrode near6 (hole aperture opening) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 18:03 |
| S14 9 | 24 | (guide guiding waveguide wave adj guide) near3 (active adj layer) and (light-emitting light adj emitting) and vertical\$2 near3 emission | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 18:04 |
| S15 0 | 13 | (guide guiding waveguide wave adj guide) near3 (active adj layer) and (light-emitting light adj emitting).ti,ab,clm. and vertical\$2 near3 emission | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 18:05 |
| S15 1 | 13 | (guide guiding waveguide wave adj guide) near3 (active adj layer) and (light-emitting light adj emitting) adj (diode element device).ti,ab,clm. and vertical\$2 near3 emission | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 18:06 |
| S15 2 | 8 | (guide guiding waveguide wave adj guide) near3 (active adj layer) and (light-emitting light adj emitting) adj (diode element device).ti,ab,clm. and vertical\$2 near3 emission and guide adj layer | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 18:09 |

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| S15 3 | 11 | (guide guiding waveguide wave adj guide) near3 (active adj layer) and (light-emitting light adj emitting) adj (diode element device) and vertical\$2 near3 emission and guide adj layer | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 18:10 |
| S15 4 | 0 | (guide guiding waveguide wave adj guide) near3 (active adj layer) and (light-emitting light adj emitting) adj (diode element device) same vertical\$2 near3 emission same guide adj layer | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 18:10 |
| S15 5 | 288 | (waveguide guide guiding wave-guide) near6 active adj (layer region) and (light-emitting light adj emitting).ti,ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 18:34 |
| S15 6 | 1218 | (waveguide guide guiding wave-guide) near6 (active adj (layer region)) and (light-emitting light adj emitting).ti,ab,clm. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 18:35 |
| S15 7 | 138 | (waveguide guide guiding wave-guide) near6 (active adj (layer region)) and (light-emitting light adj emitting).ti,ab,clm. and vertical\$2 near4 (emission emitting emit) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 18:40 |
| S15 8 | 2 | (waveguide guide guiding wave-guide) near6 (active adj (layer region)) and (light-emitting light adj emitting).ti,ab,clm. and vertical\$2 near4 (emission emitting emit) and photonic adj crystal | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 18:40 |
| S15 9 | 28 | (waveguide guide guiding wave-guide) near6 (active adj (layer region)) and (light-emitting light adj emitting).ti,ab,clm. and vertical\$2 near4 (emission emitting emit) and extract\$3 | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 18:55 |
| S16 0 | 33 | mqw near4 (guid guiding) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2006/01/15 20:21 |